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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,646	06/22/2001	Michael Benz	12758-024001	3045

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04/08/2004

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EXAMINER

JACKSON, BLANE J

ART UNIT

PAPER NUMBER

2685

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,646

Applicant(s)

BENZ ET AL.

Examiner

Blane J Jackson

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 15, 17-23 and 25-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 15, 17-23 and 25-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 01/20/04 have been fully considered but they are not persuasive regarding claims 3-8. Rejections for claims 3-8 have been clarified and provided below.

A rejection for amended claims 1, 2, 15, 17-23, 27-30 and new claims 33 and 34 that relies on a secondary intervening reference where a translation of the foreign priority papers to overcome the rejection has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 15, 19-23, 27-30, 33 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Tiedmann, Jr. et al. (U.S. Patent 6,035,209) with a view to Agin et al. (U.S. Patent 6,337,987).

As to claims 1, 2, 15, 23, 33 and 34, Tiedmann teaches a method of controlling power in a radio communication system having a radio interface between a first radio station and a second (base station in the embodiment) radio station including:

receiving transmissions of the second radio station at the first radio station (column 4, lines 39-65),

determining a transmission power correction instruction that corresponds to a transmission power of the second radio station, the transmission power correction instruction corresponding to a variable power adjustment increment, the variable power adjustment increment being adjustable in a subscriber-dependent manner and a time dependent manner (power control based on the mobile station change in velocity is time dependent, column 4 line 66 to column 5, line 65),

transmitting the transmission power correction instruction to the second radio station during a transmission of the first radio station and,

adjusting the transmission power of the second radio station according to the transmission power correction instruction (column 5, lines 31-40).

Tiedemann teaches a method to vary the value of the incremental change in accordance with velocity of the second or mobile station (column 8, line 50 to column 9, line 19) but does not teach the variable power adjustment increment is temporarily increased after an end of an interruption of transmission between the first radio station and the second radio station.

Agin teaches a method for improving the performances of a mobile radio communication system by using a power control algorithm that determines power

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control step size for at least one parameter for a given duration to compensate for the effects of a transmission interruption on power control for the uplink and downlink transmission (column 2, lines 35-59 and column 5, line 1 to column 6, line 34). It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the power control ability of Tiedemann to include control methods for transmission interruptions as taught by Agin to further improve the performance of the mobile system.

As to claim 19, Tiedmann teaches a CDMA transmission protocol over a broadband transmission channel for transmission between the first radio and second radio station (column 4, lines 51-56).

As to claims 20 and 21, Tiedmann teaches where the first radio station is a base station and the second radio station is a subscriber station or the first radio station is a subscriber station and the second radio station is a base station (column 4, lines 56-65).

As to claim 22, Tiedmann teaches where detecting a change in the condition of transmission includes changing the power adjustment increment in accordance with one of a correspondence table and calculation rule lining different transmission conditions with different power adjustment increments (column 9, lines 14-19).

As to claim 27, Tiedmann teaches a CDMA transmission protocol over a broadband transmission channel for transmission between the first radio and second radio station (column 4, lines 51-56).

As to claims 28 and 29, Tiedmann teaches where the first radio station is a base station and the second radio station is a subscriber station or the first radio station is a subscriber station and the second radio station is a base station (column 4, lines 56-65).

As to claim 30, Tiedmann teaches where detecting a change in the condition of transmission includes changing the power adjustment increment in accordance with one of a correspondence table and calculation rule lining different transmission conditions with different power adjustment increments (column 9, lines 14-19).

4. Claims 17, 18, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedmann, Jr. et al. (U.S. Patent 6,035,209) with a view to Fujita (U.S. Patent 6,128,476).

As to claims 17, 18, 25 and 26, Tiedmann teaches detecting a change in transmission comprising the velocity of the mobile unit results in an adjustment in the incremental power change (column 9, lines 14-19) but does not teach detecting a change in the condition of transmission comprises a change to one or more of a number of transmitting antennas and a number of receiving antennas being used during transmission between the first and the second radio stations.

Fujita teaches a transmitting diversity circuit for a cellular system where one or a combination of four antennas is selected for transmissions according to the intensities of received field strength contributed by each (figure 4, column 5, line 54 to column 6, line 50). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize antenna diversity methods in the system of Tiedmann as taught by Fujita to effect link quality and scale required transmission power through a choice of transmission antenna(s).

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedmann, Jr. et al. (U.S. Patent 6,035,209).

As to claims 3 and 4, Tiedmann teaches a method of controlling power in a radio communication system having a radio interface between a first radio station (mobile unit in the embodiments) and a second radio (base) station including:

receiving transmissions of the second radio station at the first radio station,
determining a transmission power correction instruction that corresponds to a transmission power of the second radio station, the transmission power correction instruction corresponding to a variable power adjustment increment (delta E: column 9, lines 15-20 and column 5, lines 31-39),

evaluating over time a condition of transmission comprising a speed of movement of the first (the mobile station) or second radio station (column 5, lines 4-30),

transmitting the transmission power correction instruction to the second radio station during a transmission of the first radio station,

adjusting a second transmission power of the second radio station according to the transmission power correction instruction (column 5, lines 31-65).

Tiedmann is not specific as to where the variable power adjustment increment (ΔE) is greater in a medium range of speed than in a high or low range of speed. However, Tiedmann teaches the base station will vary the value of the incremental change based on the velocity of the mobile station where the value is determined algorithmically in the control processor (column 9, lines 14-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to program the power increment step size of Tiedmann in accordance for best link performance as dictated by the effects of the signal from the moving mobile station.

5. Claims 5-8, 31, 32, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedmann, Jr. et al. (U.S. Patent 6,035,209) with a view to Persson (U.S. Patent 5,487,174).

As to claims 5-8, Tiedmann teaches a method of controlling power in a radio communication system having a radio interface between a first radio station and a second radio station comprising:

receives transmissions of the second radio station at the first radio station (column 4, lines 39-65),

determines a transmission power correction instruction that corresponds to a first transmission power of the second radio station, the transmission power correction

instruction corresponding to a variable power adjustment increment (delta E: column 9, lines 15-20 and column 5, lines 31-39),

evaluating over time a condition of transmission between the first radio station and the second radio station,

transmitting the transmission power correction instruction to the second radio station (base station) during a transmission of the first radio station,

adjusting a second transmission power of the second radio station according to the transmission power correction instruction (column 5, lines 31-65).

Tiedmann teaches that a condition of transmission is the velocity of the mobile station will cause signal fading where a power adjustment increment varies in accordance to the effect of the velocity of the mobile station (column 8, line 50 to column 9, line 19) but does not teach the condition of transmission comprises one or more of a number of transmitting antennas and a number of receiving antennas used to establish communication between the first radio station and the second radio station.

Persson teaches methods in a CDMA cellular mobile network where a plurality of base station (antennas) used during the process of soft hand off effects the system power control decisions (figure 1 and column 5, lines 26-43). Persson further teaches the base station that receives signals substantially stronger than the other base station determines the control indicator to direct the output power of the mobile (column 10, lines 37-48 and column 16, lines 15-40). It would have been obvious to one skilled in the art at the time of the invention to include in the power control methods of Tiedemann the effect of a plurality of base stations (number of antenna based sources)

involved with the process of soft hand-off and power control as taught by Persson to further improve power control so as to reduce co-channel interference when a cellular mobile radio system comprises adjacent cells of substantially different sizes.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Agin et al. (U.S. Patent 6,337,988) discloses a method for improving performances of a mobile radio communication system using a power control algorithm. Agin (U.S. Patent 6,549,785) also discloses a method for improving performances of a mobile radio communication system using a power control algorithm.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

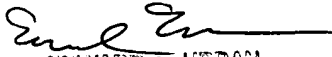
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J Jackson whose telephone number is (703) 305-5291. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (703) 305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJJ


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